

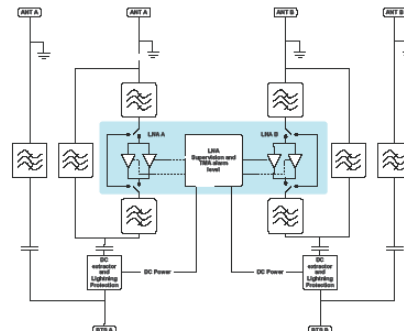
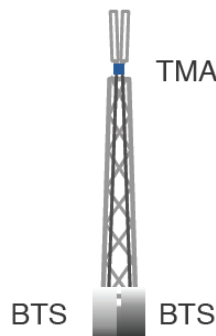
# MI-11303:TMA Twin 1800/900 BPE



## Specifications

Bypass Path	
Frequency Band	880 - 960 MHz
Insertion Loss	0.15 dB*
Continuous Average Power	200W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-110 dBm max. in RX band ANT port
Downlink (TX) Path	
Frequency Band	1805 - 1880 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band ANT port
Uplink (RX) Path	
Frequency Band	1710 - 1785 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	25 dBm*
Power Supply and Alarm	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
Environmental	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
Miscellaneous	
EMC	EN 301 489-8
Safety standards	EN 60950
MTBF	750.000 hours min.
Mechanical	
Dimensions (WxHxD)	262x303x69 mm
Connectors	All are 7/16 female, long neck 2 for BTS, 2 for 900 MHz antenna, 2 for 1800 MHz antenna
Mounting	Hose clamps, arbitrary orientation
Volume	5.5 l
Weight	8.6kg

\*typical



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# MI-I 1203:TMA Twin 900 E-GSM

## Specifications

### Downlink (TX) Path

Frequency Band	925 - 960 MHz
Insertion Loss	0.5 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in TX band, ANT port



### Uplink (RX) Path

Frequency Band	880 - 915 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	1.7 dB*
Output IP3	25 dBm*

### Power Supply and Alarm

DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	120 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA

### Environmental

Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68

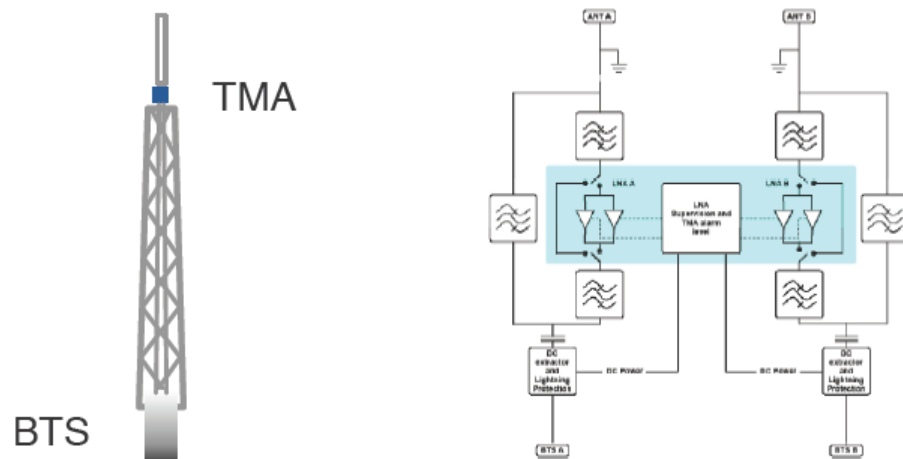
### Miscellaneous

EMC	EN 301 489-8
Safety standards	EN 60950
MTBF	750.000 hours min.

### Mechanical

Dimensions (WxHxD)	235x280x83 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	5.5 l
Weight	8.0kg
Colour	NCS 1502-R

\*typical

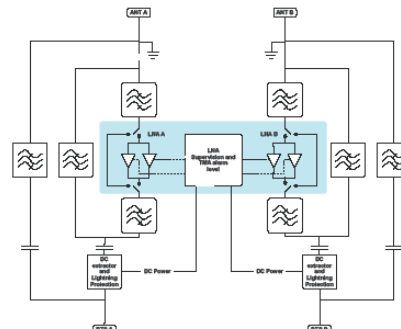
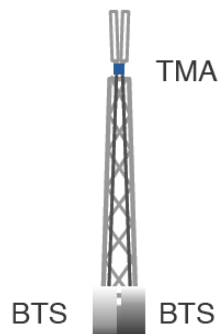


# MI-I 1302:TMA Twin 1800/900 BP



Specifications	
<b>Bypass Path</b>	
Frequency Band	880 - 960 MHz
Insertion Loss	0.15 dB*
Continuous Average Power	200W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-110 dBm max. in RX band ANT port
<b>Downlink (TX) Path</b>	
Frequency Band	1805 - 1880 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band ANT port
<b>Uplink (RX) Path</b>	
Frequency Band	1710 - 1785 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	25 dBm*
<b>Power Supply and Alarm</b>	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
<b>Environmental</b>	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
<b>Miscellaneous</b>	
EMC	EN 301 489-8
Safety standards	EN 60950
MTBF	750.000 hours min.
<b>Mechanical</b>	
Dimensions (WxHxD)	262x289x69 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	5.2 l
Weight	8kg
Colour	NCS 1502-R

\*typical



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## Specifications

### Downlink (TX) Path

Frequency Band	1930 - 1990 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in TX band, ANT port



### Uplink (RX) Path

Frequency Band	1850 - 1910 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	12 dBm

### Power Supply and Alarm

DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA

### Environmental

Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68

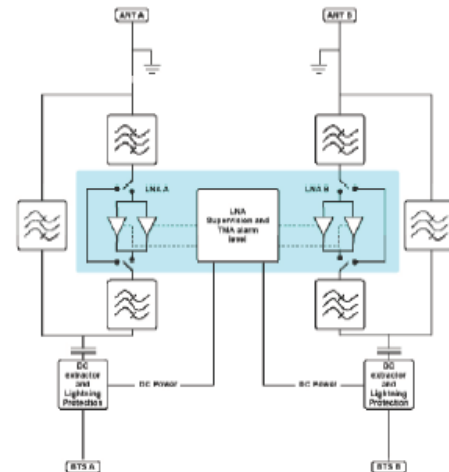
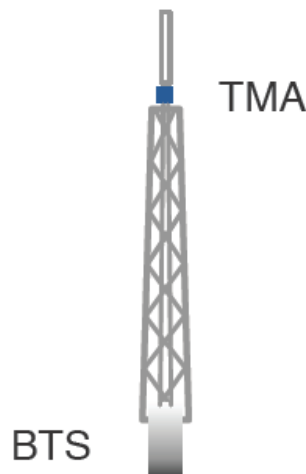
### Miscellaneous

EMC	FCC Part 15
Safety standards	EN 60950
MTBF	1000,000 hours min.

### Mechanical

Dimensions (WxHxD)	168x275x61 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	2,8 l
Weight	4.6kg
Colour	NCS 1502-R

\*typical

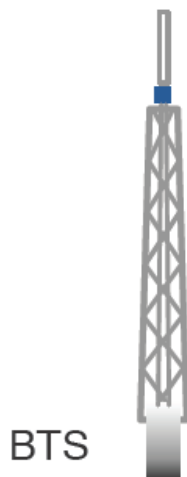


# MI-1150:TMA Twin 1800

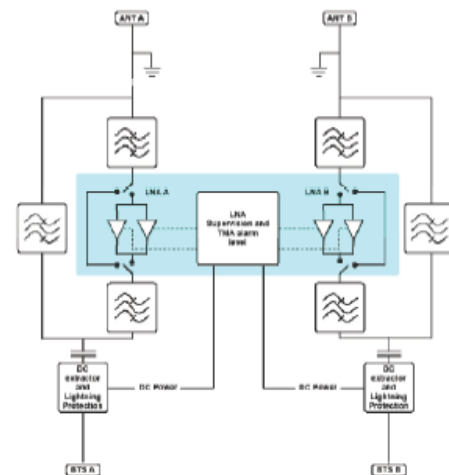


Specifications	
<b>Downlink (TX) Path</b>	
Frequency Band	1805 - 1880 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band, ANT port
<b>Uplink (RX) Path</b>	
Frequency Band	1710 - 1785 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	25 dBm*
<b>Power Supply and Alarm</b>	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
<b>Environmental</b>	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
<b>Miscellaneous</b>	
EMC	EN 301 489-8
Safety standards	EN 60950
MTBF	750,000 hours min.
<b>Mechanical</b>	
Dimensions (WxHxD)	168x275x61 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	2,8 l
Weight	4.6kg
Colour	NCS 1502-R

\*typical



TMA

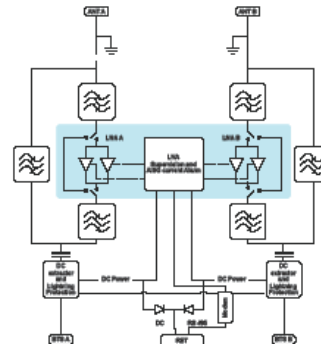
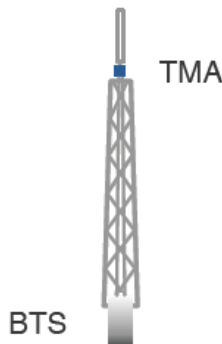


# MI-11601:TMA Twin UMTS



Specifications		
<b>Downlink (TX) Path</b>		
Frequency Band	2110 - 2170 MHz	
Insertion Loss	0.3 dB*	
Continuous Average Power	200 W (53 dBm)	
Intermodulation, 2x43 dBm TX Carrier BTS port	-125 dBm in RX band, ref ANT port	
<b>Uplink (RX) Path</b>		
Frequency Band	1920 - 1980 MHz	
Gain	12 dB nominal	
Noise Figure	1.5 dB*	
Insertion Loss, Bypass mode	2.0 dB*	
Output IP3	25 dBm*	
<b>Power Supply and Alarm</b>		
DC Supply Voltage via BTS-RF cable	9 - 17 V DC	
DC Supply Current, normal mode	100 mA*	
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA	
<b>Power Supply and Alarm</b>		
	Current Alarm Mode	AISG - Mode
DC	9 - 15 V	9 - 30 V
Power	80 - 130 mA	< 2 W
Alarm	170 - 180 mA	3GPP/AISG 2.0
<b>Environmental</b>		
Operating Temperature Range	-40 to +65°C	
Operation	ETS 300 019-1-4	
Storage	ETS 300 019-1-1	
Ingress Protection	IP68	
<b>Miscellaneous</b>		
EMC	EN 301 489-8	
Safety standards	EN 60950	
MTBF	750,000 hours min.	
<b>Mechanical</b>		
Dimensions (WxHxD)	168x275x61 mm	
Connectors	7/16 female, long neck	
Mounting	Hose clamps, arbitrary orientation	
Volume	2,8 l	
Weight	4.6kg	
Colour	NCS 1502-R	

\*typical

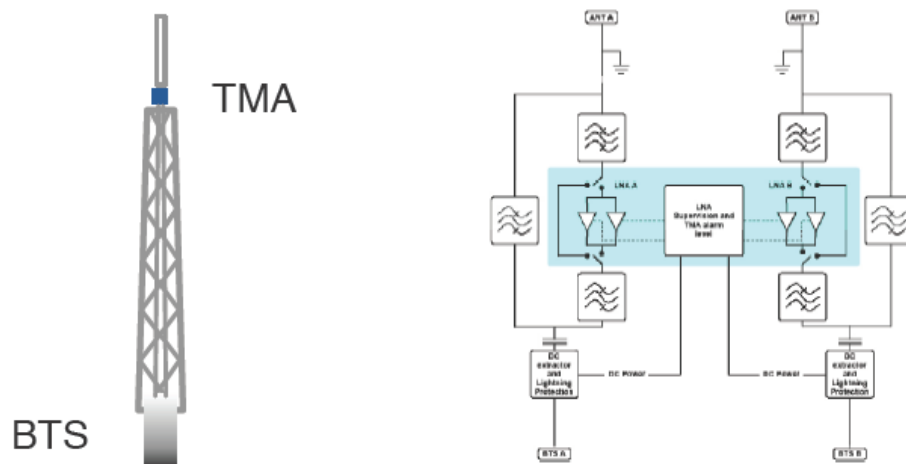


# MI-11701:TMA Twin 900 compact



Specifications	
<b>Downlink (TX) Path</b>	
Frequency Band	935 - 960 MHz
Insertion Loss	0.35 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band, ANT port
<b>Uplink (RX) Path</b>	
Frequency Band	890 - 915 MHz
Gain	12 dB nominal
Noise Figure	1.3 dB*
Insertion Loss, Bypass mode	1.5 dB*
Output IP3	25 dBm*
<b>Power Supply and Alarm</b>	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	120 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
<b>Environmental</b>	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
<b>Miscellaneous</b>	
EMC	EN 301 489-8
Safety standards	EN 60950
MTBF	750,000 hours min.
<b>Mechanical</b>	
Dimensions (WxHxD)	168x275x73 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	3,4 l
Weight	4.9kg
Colour	NCS 1502-R

\*typical

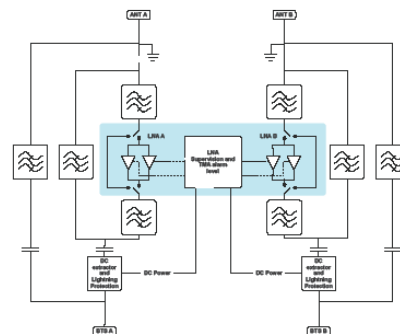
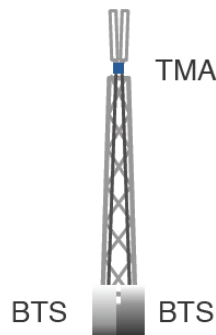


# MI-I 1802:TMA Twin 1900/800 BP



Specifications	
<b>Bypass Path</b>	
Frequency Band	824 - 894 MHz
Insertion Loss	0.15 dB*
Continuous Average Power	200W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-110 dBm max. in RX band, ANT port
<b>Downlink (TX) Path</b>	
Frequency Band	1930 - 1990 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band ANT port
<b>Uplink (RX) Path</b>	
Frequency Band	1850 - 1910 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	12 dBm
<b>Power Supply and Alarm</b>	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
<b>Environmental</b>	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
<b>Miscellaneous</b>	
EMC	FCC Part 15
Safety standards	EN 60950
MTBF	750.000 hours min.
<b>Mechanical</b>	
Dimensions (WxHxD)	262x289x69 mm
Connectors	7/16 female, long neck
Mounting	Hose clamps, arbitrary orientation
Volume	5.2 l
Weight	8kg
Colour	NCS 1502-R

\*typical



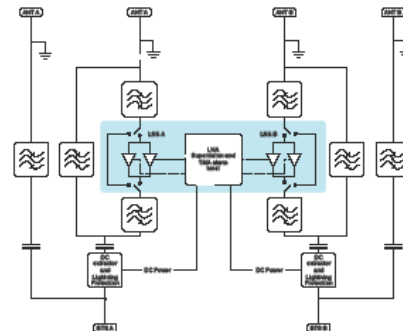
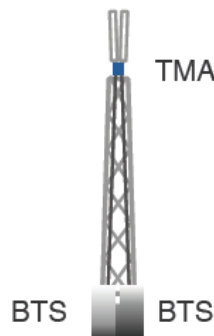
# MI-I 1803:TMA Twin 1900/800 BPE



## Specifications

Bypass Path	
Frequency Band	824 - 894 MHz
Insertion Loss	0.15 dB*
Continuous Average Power	200W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-110 dBm max. in RX band, ANT port
Downlink (TX) Path	
Frequency Band	1930 - 1990 MHz
Insertion Loss	0.3 dB*
Continuous Average Power	200 W (53 dBm)
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band ANT port
Uplink (RX) Path	
Frequency Band	1710 - 1785 MHz
Gain	12 dB nominal
Noise Figure	1.5 dB*
Insertion Loss, Bypass mode	2.0 dB*
Output IP3	12 dBm
Power Supply and Alarm	
DC Supply Voltage via BTS-RF cable	9 - 17 V DC
DC Supply Current, normal mode	100 mA*
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA
Environmental	
Operating Temperature Range	-40 to +65°C
Operation	ETS 300 019-1-4
Storage	ETS 300 019-1-1
Ingress Protection	IP68
Miscellaneous	
EMC	FCC Part 15
Safety standards	EN 60950
MTBF	750.000 hours min.
Mechanical	
Dimensions (WxHxD)	262x303x69 mm
Connectors	All are 7/16 female, long neck 2 for BST, 2 for 900 Mhz antenna, 2 for 1800 MHz antenna
Mounting	Hose clamps, arbitrary orientation
Volume	5.5 l
Weight	8.6kg

\*typical



# MI-I2001:TMA Twin LTE 2600



Specifications		
<b>Downlink (TX) Path</b>		
Frequency Band	2620 - 2690 MHz	
Insertion Loss	0.4 dB*	
Continuous Average Power	200 W (53 dBm)	
Intermodulation, 2x43 dBm TX Carrier BTS port	-116 dBm in RX band, ANT port	
<b>Uplink (RX) Path</b>		
Frequency Band	2500 - 2570 MHz	
Gain	12 dB nominal	
Noise Figure	1.4 dB*	
Insertion Loss, Bypass mode	2.0 dB*	
Output IP3	25 dBm*	
<b>Power Supply and Alarm</b>		
DC Supply Voltage via BTS-RF cable	9 - 17 V DC	
DC Supply Current, normal mode	100 mA*	
DC Supply Current, alarm mode, single level	Factory configurable, 160 - 300 mA	
<b>Power Supply and Alarm</b>		
	Current Alarm Mode	AISG - Mode
DC	9 - 15 V	9 - 30 V
Power	80 - 130 mA	< 2 W
Alarm	170 - 180 mA	3GPP/AISG 2.0
<b>Environmental</b>		
Operating Temperature Range	-40 to +65°C	
Operation	ETS 300 019-1-4	
Storage	ETS 300 019-1-1	
Ingress Protection	IP68	
<b>Miscellaneous</b>		
EMC	EN 301 489-8	
Safety standards	EN 60950	
MTBF	1,000,000 hours min.	
<b>Mechanical</b>		
Dimensions (WxHxD)	140x171x50 mm	
Connectors	7/16 female, long neck AISG Female 8 pin circular	
Mounting	Hose clamps, arbitrary orientation	
Volume	1.3 l	
Weight	3kg	
Colour	NCS 1502-R	

\*typical

